

IN THE CLAIMS:

1. (Currently Amended) A process for the laser machining of a workpiece, the process comprising:

    sending a laser beam from a laser source via a guide means to a laser tool at a multi-axial hand of at least one manipulator, the laser tool having a focal distance;

    guiding, with said manipulator, said laser tool in a displacing motion relative to said workpiece at a contact-free distance above the workpiece along a machining path;

    deflecting said laser beam, means of a motion of said hand, to provide a deflection motion about one or more axes of the multi-axial hand by variable deflection angles and to change an angle of incidence of the laser beam on the workpiece; and

    controlling said laser source, whose power is variable, by controlling laser beam power of said laser source to control power of said laser beam at the laser tool as a function of laser beam motion and the angle of incidence of the laser beam on the ~~relative~~ to the workpiece, wherein the laser source and the manipulator are controlled by a common control.

2. (Previously Presented) A process in accordance with claim 1, wherein said beam deflection motion of said hand axes is superimposed to said displacing motion.

3. (Currently Amended) A process in accordance with claim 2, wherein said manipulator performs a continuous displacing motion, wherein said superimposed beam deflection motion is directed at least partially ~~against~~ in a direction opposite to a direction of

said displacing motion.

4. (Canceled)

5. (Previously Presented) A process in accordance with claim 1, further comprising:  
providing one or more programs and at least one technological data bank, wherein said one or more programs and said data bank are used for providing said displacing motion of said manipulator and controlling said laser source automatically on a basis of input workpiece data;  
and

providing a computer for running said one or more programs as part of a control and providing a control memory for storing said at least one technological data bank.

6. (Previously Presented) A process in accordance with claim 2, wherein said laser beam power of said laser source and said displacing motion and said beam deflection motion are determined and controlled according to a section energy to be introduced into said workpiece.

7. (Currently Amended) A process in accordance with claim 5, wherein said workpiece data are input by an operator into said common control on site via an input unit.

8. (Currently Amended) A process in accordance with claim 5, wherein one or more

tools for said workpiece are controlled by said common control.

9. (Currently Amended) A process in accordance with claim 1, wherein ~~[[a]]~~ said laser tool ~~with a switchable or adjustable~~ has a focal distance is used that may be switched from one focal distance to another focal distance or may be adjusted from one focal distance to another focal distance, and further comprising the step of:

adjusting the focal distance of the laser tool as a function of laser beam motion and the angle of incidence of the laser beam on the workpiece.

10. (Currently Amended) A laser device for laser machining, including laser welding, of a vehicle body workpiece and a body parts workpiece, the device comprising:

a manipulator;

a laser source;

a laser tool with a focal distance;

a laser guide means for guiding laser light from the laser source to the laser tool, wherein the laser source is connected via said guide means to said laser tool at a multiaxial hand of said manipulator, wherein said manipulator holds said laser tool and guides same at a contact-free distance ~~above~~ spaced from the workpiece along a machining path;

a common control for controlling said manipulator for moving said laser tool in a displacing motion relative to said workpiece at a contact-free distance above the workpiece along a machining path and for deflecting said laser beam about hand axes such that said laser

beam has a deflection motion by variable deflection angles to change an angle of incidence of the laser beam on the workpiece, and controlling power of said laser source to vary power at said laser tool as a function of laser beam motion and the angle of incidence of the laser beam on relative to the workpiece.

11. (Currently Amended) A laser device in accordance with claim 10, wherein said manipulator guides said hand in [[a]] said displacing motion relative to said workpiece, wherein said laser beam deflecting motion is superimposed to said displacing motion to provide a superimposed laser beam deflecting motion.

12. (Currently Amended) A laser device in accordance with claim 11, wherein said manipulator performs a continuous displacing motion, wherein said superimposed beam deflecting motion is directed at least partially opposite to a direction of said displacing motion.

13. (Currently Amended) A laser device in accordance with claim 11, wherein said ~~control comprises a common control, common to said laser source and said manipulator wherein said common control has a input unit for inputting workpiece data by an operator on site.~~

14. (Previously Presented) A laser device in accordance with claim 13 , wherein said common control has at least one said computer and at least one memory with one or more

programs and with at least one technology data bank, with which program and data bank said displacing motion and said deflection motion and said laser process parameters can be automatically determined and carried out on a basis of input workpiece data.

15. (Currently Amended) A laser device in accordance with claim 10, wherein said common control controls ~~controlling~~ power of said laser source and said displacing motion and said deflecting motion to be performed by said manipulator is determined and controlled according to section energies to be introduced into the workpiece.

16. (Canceled)

17. (Previously Presented) A laser device in accordance with claim 14, wherein said input unit has a keyboard and/or a drive for said portable data storage media and/or at least one interface for a data line.

18. (Previously Presented) A laser device in accordance with claim 13, further comprising: one or more tools for the workpiece, which are connected to said control, said one or more tools including clamping tools and/or a conveying means for conveying the workpiece.

19. (Cancelled).

20. (Previously Presented) A laser device in accordance with claim 10, wherein said guide means has a modular design and has a plurality of optic conductor sections that can be connected.

21. (Canceled)

22. (Previously Presented) A laser device in accordance with claim 10, wherein said laser source is designed as a fiber laser, disk laser or diode-pumped Nd-YAG laser.

23. (Currently Amended) A laser device in accordance with claim 10, wherein said laser tool has a focal distance ~~that is switched or adjusted~~ that may be switched from one focal distance to another focal distance or may be adjusted from one focal distance to another focal distance, and said common control adjusts the focal distance of the laser tool as a function of laser beam motion and the angle of incidence of the laser beam on the workpiece.

24. (Previously Presented) A laser device in accordance with claim 10, wherein said laser tool has a focal distance greater than 300 mm.

25. (Previously Presented) A laser device in accordance with claim 13, further comprising additional manipulators each with a laser tool, to provide a plurality of said manipulators and to provide a plurality of laser tools, wherein said laser source is a common

laser source that is switched by said control to said laser tools.

26. (Previously Presented) A laser device in accordance with claim 10, wherein said manipulator is designed as a multiaxial industrial robot comprising a six-axis articulated arm robot with said axes and said hand has three said rotatory hand axes.

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Previously Presented) A process for laser machining of a vehicle chassis workpiece or chassis parts workpiece, the process comprising the steps of:

providing a multi-axial manipulator with a multi-axis hand;

providing a variable power laser source;

providing a multi-axial manipulator and variable power laser source common control;

providing a laser tool connected to the multi-axis hand, the laser tool having a focal distance;

providing a laser guiding device;

guiding a laser beam from the laser source via the guiding device to the laser tool

connected to the multi-axis hand;

guiding the multi-axis hand to guide the laser tool over the workpiece at a contactless spacing along a machining track, with the manipulator guiding the multi-axis hand in a displacing motion relative to the workpiece;

deflecting the laser beam by variable deflection angles with a deflection motion to vary an angle of incidence of the laser beam on the workpiece via a movement of the laser tool about one or more hand axes of the multi-axis hand;

controlling laser power of the laser beam emitted at the laser tool, with the common controller, as a function of said displacing motion and said deflection motion and of said angle of incidence of the laser beam on the workpiece.

31. (Previously Presented) A laser device for laser machining of a vehicle chassis workpiece or chassis parts workpiece, the laser device comprising:

a multi-axial manipulator with a multi-axis hand;

a variable power laser source;

a laser tool connected to the multi-axis hand, the laser tool having a focal distance;

a laser guiding device connected between said variable power laser source and said laser tool for guiding a laser beam from said laser source to said laser tool;

a multi-axial manipulator and variable power laser source common control for controlling said manipulator for guiding the multi-axis hand to guide the laser tool over the workpiece at a contactless spacing along a machining track, with the manipulator guiding the



multi-axis hand in a displacing motion relative to the workpiece, for deflecting the laser beam by variable deflection angles with a deflection motion to vary an angle of incidence of the laser beam on the workpiece via a movement of the laser tool about one or more hand axes of the multi-axis hand and for controlling laser power of the laser beam emitted at the laser tool, with the common controller, as a function of said displacing motion and said deflection motion and of said angle of incidence of the laser beam on the workpiece.

32. (New) A process in accordance with claim 30, wherein the focal distance may be switched from one focal distance to another focal distance or may be adjusted from one focal distance to another focal distance, and further comprising the step of:

adjusting the focal distance of the laser tool as a function of laser beam motion and the angle of incidence of the laser beam on the workpiece.

33. (New) A laser device in accordance with claim 31, wherein said laser tool has a focal distance that may be switched from one focal distance to another focal distance or may be adjusted from one focal distance to another focal distance, and said common control adjusts the focal distance of the laser tool as a function of laser beam motion and the angle of incidence of the laser beam on the workpiece.